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Fully dissolvable, temporary stent for opening heart artery blockages

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The Mount Sinai Medical Center is participating in the nationwide ABSORB III clinical trial testing the performance and potential clinical benefits of a fully dissolvable and temporary drug eluting stent to open heart artery blockages. The randomized trial aims to compare the efficiency and safety of Absorb Bioresorbable Vascular Scaffolds (Absorb BVS) in coronary artery disease patients and compare it to the current standard of care—drug eluting metal stents.

Absorb BVS is a flexible artery support tube made of a naturally dissolvable material called polylactide. It is inserted by interventional cardiologists minimally invasively during a cardiac catheterization procedure. Absorb BVS works to line the interior of a blocked heart artery to keep it open and restore proper blood flow to the heart. The supportive tube then dissolves into the artery wall within two years.

"Dissolvable stents may be a future game-changer for the way we treat coronary artery disease and heart attack in the United States if proven to show clinical benefit in this nationwide clinical trial," says Samin K. Sharma, MD, Director of Clinical and Interventional Cardiology at The Mount Sinai Medical Center and the Zena and Michael A. Wiener Professor of Medicine at Icahn School of Medicine at Mount Sinai. "The stent is designed to open a blocked heart vessel and eventually dissolve and disappear, leaving no remnants on the heart of a cardiac interventional procedure."

"We look forward to testing this innovative absorbable artery support

technology's efficiency and safety at Mount Sinai," says Annapoorna S. Kini, MD, Director of the Cardiac Catheterization Laboratory at The Mount Sinai Medical Center. "Since the stent is designed to completely dissolve into the arterial tissue it may potentially help improve the overall health of a patient's once blocked heart vessel while restoring its natural flexibility and movement."

"Heart disease is still the number one killer of Americans. This is why we need to study in clinical trial every available therapeutic option for our heart patients to improve their overall heart health and prevent future deadly heart attacks," says Roxana Mehran, MD, Director of Interventional Cardiovascular Research and Clinical Trials at Icahn School of Medicine at Mount Sinai. "It is critical that advances in cardiac interventional technology, currently being used on other continents to help unblock arteries, be tested in clinical trial in the U.S."

The randomized ABSORB III clinical trial plans to enroll approximately 2,250 coronary artery disease patients across the country. Mount Sinai hopes to enroll 50 patients.

Recently, Absorb BVS became commercially available in Europe, India, and parts of Latin America and Asia. So far, more than 1,000 patients around the world have been treated with the device. Absorb BVS is made by the global healthcare company Abbott.

Provided by The Mount Sinai Hospital